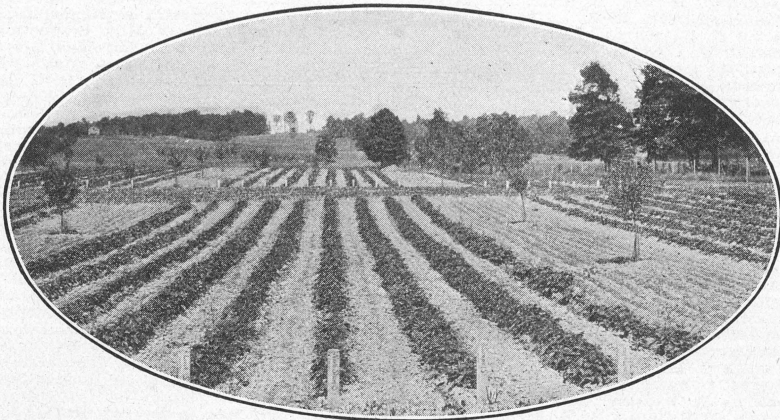


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STRAWBERRIES

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¹ In charge of Fertilizer and Feeding Stuff Control

² Detailed by U. S. Dept't of Agriculture—Seed Testing

³ Detailed by U. S. Dept't of Agriculture—Cereal and Forage Crop Insect Investigations

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STRAWBERRIES¹

Prepared under the direction of C. G. WOODBURY

By JOSEPH OSKAMP

CULTURE

IMPORTANCE OF CROP.—The strawberry is the most important small fruit crop in Indiana. According to the census of 1910, the yield in 1909 was 3,759,132 quarts or an average of 1456 quarts per acre. This is a very low yield and could easily be doubled on the same acreage now under cultivation by the judicious selection of varieties and the use of proper cultural methods.

SOIL.—Strawberries have a wide adaptation to soil and climate and may be grown on any soil suited to the ordinary farm crops. Commercial plantings are generally located on a light or sandy soil which is mellow and "quick." Soils of this nature are chosen on account of their earliness and ease of cultivation. For special purposes such a soil, even though lacking in fertility, may be more desirable than a heavier soil of greater richness.

LOCATION.—Locate the patch on the higher lands so as to avoid injury from late spring frosts. Berries will ripen their crop several days earlier if given a southern exposure where they have the full benefit of the sun. Likewise, if it becomes advantageous to lengthen the season, select a northern aspect.

SELECTING VARIETIES.—Varieties vary considerably in their soil requirements, some being particularly adapted to certain localities and there meeting with great success, while in neighboring sections these same varieties are not held in high esteem. There are varieties, however, which are very cosmopolitan and enjoy wide popularity. These are the safest varieties from which a prospective grower can choose.

POLLINATION.—In ordering strawberry plants the matter of pollination should receive attention. Fig. 1, A, pictures the blossom of a pistillate (P), or imperfect (Imp.) variety. A staminate (S) or perfect (Per.) flower can be distinguished by the row of white filaments or stamens surrounding the pistil or central portion of the blossom as shown in Fig. 1, B. Pistillate varieties if planted exclusively would be a failure for lack of fertilization, while staminate sorts are capable of fertilizing their own or other flowers. Therefore, a staminate variety should appear every three or four rows among pistillate sorts, choosing those which blossom together.

¹This is a brief summary of Station Bulletin No. 164. The complete bulletin will be sent on application to any one desiring further information in regard to culture or varieties



Fig. 1. The smaller blossom, A, is pistillate or imperfect. Varieties bearing such flowers must be set with those bearing perfect or staminate flowers, as shown at B

IMPROVING THE SOIL.—Berries draw heavily upon the soil moisture in maturing a crop of fruit. Humus is the great reservoir of soil moisture, holding water much as a sponge. By turning under barnyard manure or green crops we eventually add humus to the soil. The improvement of the fertility of the soil is closely allied to the problems of drainage and moisture. Humus is quite as important in bettering the one as the other.

PREPARING THE BED.—Plow the land moderately deep; if in grass plow in the fall and plant to some clean culture crop the first year. Sod land is likely to be infested with white grubs which injure and sometimes destroy strawberry plants by devouring their roots. The land, after plowing and harrowing, should be rolled or dragged to settle and pulverize the soil.

SYSTEMS OF PLANTING.—There are two systems of planting in vogue,—the hill system and the matted row. In the hill system the plants are set in hills and cultivated both ways, allowing no runners to develop. The growth all centers in the original mother plants, causing them to throw out numerous lateral crowns at their own base. This is an intensive system and produces more fancy fruit, being well suited to the supplying of a home garden or a special local trade. Varieties which make few runners such as Chesapeake or Bubach are to be preferred for this system as they greatly reduce the labor of cutting runners. The matted row is the rule among commercial growers. The plants are set fifteen to twenty-four inches apart in rows three to four feet apart.

SETTING THE PLANTS.—Work should be begun in the spring as soon as the ground is fit. Plants set out early before they begin growth will sustain less shock in transplanting and make a better start. Shorten the roots in to four or five inches and remove all leaves but one or two. Set the plants so that the roots are well covered and the crowns are level with the surface of the ground.

CULTIVATION.—Frequent and shallow tillage the first season is one of the secrets of successful berry growing. Cultivate often enough to keep a continuous dust mulch on the surface to conserve the moisture; this will vary with the soil and season, from twice a

week to once every ten days. Decrease the cultivated area between the rows as the season advances, allowing the runners to set, making a matted row fourteen to twenty inches wide. Then keep the runners cut. Of course hand hoeing will be necessary to keep the weeds and surplus runners down. Blossoms should be kept pinched off as it is desired that the plants put all their energy into growth this first season.

MULCHING.—A mulch of two or three inches of some rather fine material, such as clean straw or marsh hay should be applied to the patch in late fall as a protection against alternate thawing and freezing. In covering a considerable area, the manure spreader is a most economical way of applying this mulch. It is advisable to leave the mulch undisturbed during a frosty spring to retard blooming and thus avoid frost injury. As growth proceeds, the straw can be raised in places where it is too heavy for the plants to push through, letting the mulch remain during the fruiting season.

PROPAGATION.—Commercially, the strawberry is propagated by means of runners and every plant is merely a cut off or somewhat distantly separated portion of the original plant of that particular variety. A bed intended to grow plants for setting should expend all its energies in the production of young plants and not be allowed to fruit. In setting out a new patch it is only these young plants which should be used. They are recognized by their smaller crowns and bright fibrous roots.

RENEWING OLD BEDS.—Strawberries are rarely profitable for more than one crop. If the patch is to be refruitied, mow off the old vines after picking is over and burn them, and then plow out the old plants leaving the runners to renew the patch. Subsequent treatment consists of clean cultivation as for a new patch.

FERTILIZERS.—Manure or green crops such as soy beans, cow-peas, or clover should be turned under whenever possible. Very heavy and frequent manuring is not desired as it is not a balanced fertilizer, being deficient in phosphoric acid. In conjunction then with fifteen to twenty-five tons of barnyard manure per acre, acid phosphate should be added at the rate of 200 to 600 pounds.

A complete chemical fertilizer is of value on a poor soil or where an application of manure was not given. The materials can be purchased separately and mixed at home in the following proportions:—

134 lbs. nitrate of soda and 250 lbs. tankage
572 " acid phosphate
120 " muriate of potash

INSECTS AND DISEASES.—If the patch is burned over after harvesting the crop every year, rotated every two or three years, and varieties resistant to leaf spot planted, very little trouble from insects or diseases should be experienced.

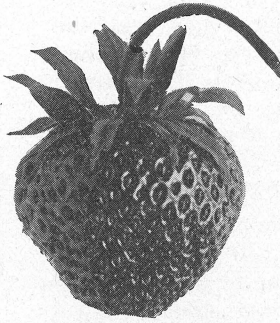


Fig. 2. Aroma

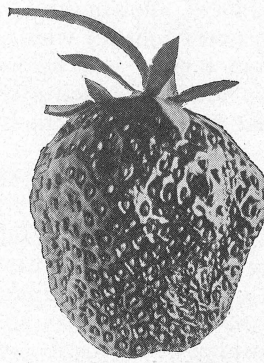


Fig. 3. Black Beauty

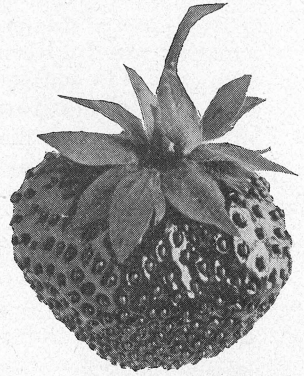


Fig. 4. Chesapeake

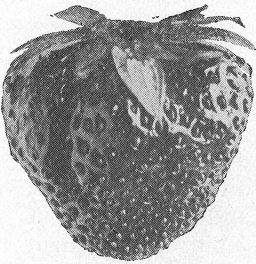


Fig. 5. Columbia

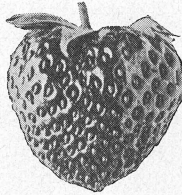


Fig. 6. Excelsior

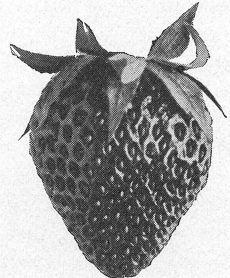


Fig. 7. First Quality

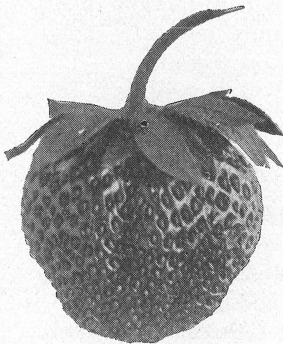


Fig. 8. Gandy

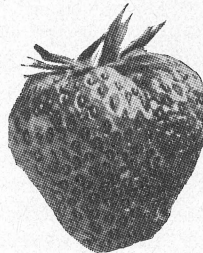


Fig. 9. Gill

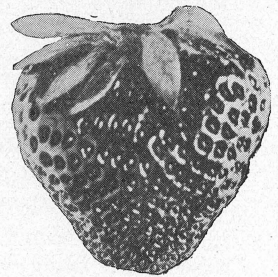


Fig. 10. Grand Marie

VARIETIES

One hundred and twenty-nine varieties of strawberries were fruited at this station in 1911 and 1912. The great majority were medium and late sorts. The early varieties were in general inferior. This report must not be looked upon as final in establishing the merits of the various varieties.

Varieties Found to be Superior to Others in Their Season

Earliest

Gill
Excelsior
August Luther

Early

Texas
Klondike

Medium

Senator Dunlap
Haverland
First Quality
Grand Marie
Aroma

Late

Grays Dollar
Black Beauty
Columbia
Chesapeake
Sample

Latest

Gandy
Orem

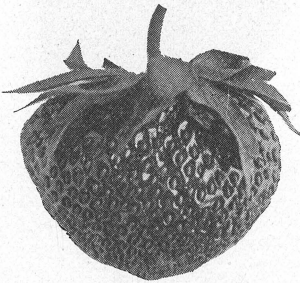


Fig. 11. Grays Dollar

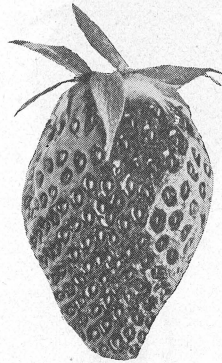


Fig. 12. Haverland

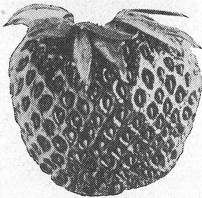


Fig. 13. Klondike

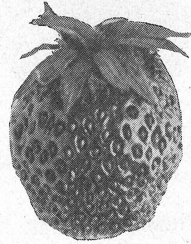


Fig. 14. August Luther

Varieties Which Were Above the Average of Those Tested

Abington	King Edward	Oom Paul
Battenberg	Lovett	Oswego
Brandywine	Marie	Parsons Beauty
Bubach	Mark Hanna	Pineapple
Cardinal	Marshall	Pocomoke
Clyde	Matthew Crawford	President
Dornan	Midnight	Pride of Michigan
Fendall	Nehrigs Gem	Red Dawn
Gibson	Nettie	Stevens Late
Gladstone	New York	Tennessee
Glen Mary	Nick Ohmer	Uncle Sam
Golden Gate	North Shore	Virginia
Good Luck	Norwood	Warfield
		William Belt

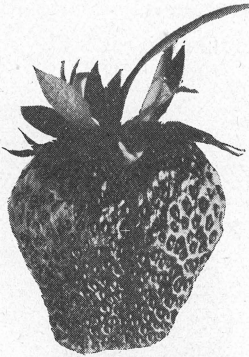


Fig. 15. Orem

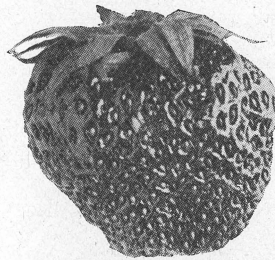


Fig. 16. Sample

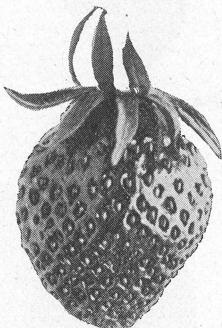


Fig. 17. Senator Dunlap

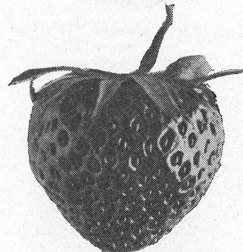


Fig. 18. Texas

Those desiring more complete information in regard to the behavior of the varieties should send for Station Bulletin No. 164.